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09/669,400	09/22/2000	Fritz Schaefer	52647-1	2814

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EXAMINER	
GRIFFIN, WALTER DEAN	

ART UNIT	PAPER NUMBER
1764	9

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Please find below and/or attached an Office communication concerning this application or proceeding.

(WH) -2

Office Action Summary	Application No. 09/669,400	Applicant(s) SCHAEFER, FRITZ	
	Examiner Walter D. Griffin	Art Unit 1764	

-- The MAILING DATE of this communication app ars on the cov r sh et with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *19,21 and 22* is/are allowed.

6)☒ Claim(s) *1-18 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because the serial number of provisional application 60/098630 is incorrect. The correct serial number is 60/198630.

Specification

The disclosure is objected to because of the following informalities: The disclosure lacks a reference to the provisional applications. This reference must be included on page 1 of the specification. The "Brief Description of the Drawings" section on page 5 is incorrect because it does not include a separate description of Figures 7a and 7b. On page 14, line 25, the reference to "Figure 7" is incorrect. There is no "Figure 7" in the application. There are a "Figure 7a" and a "Figure 7b".

Appropriate correction is required.

Claim Objections

Claims 13, 17, and 22 are objected to because of the following informalities: The word "to" should be inserted after the word "connected" in (b) of claim 13. In claim 17, it appears as a

degree symbol is missing following the numeral "45". In the second line of claim 22, the word "and" should apparently be changed to "for. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-6, 10-18, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is indefinite because the reference to heating energy is incorrect. The unit "GHz" is for frequency, not energy.

Claim 5 is indefinite because the expression "the bottom vessel" lacks proper antecedent basis in claim 1.

Claim 6 is indefinite because it is unclear where the further step of claim 6 fits into the sequence of steps of claim 1.

Claim 6 is also indefinite because the expression "the demulsified oil" lacks proper antecedent basis in claim 1.

Claim 10 is indefinite because the reference to heating energy is incorrect. The unit "GHz" is for frequency, not energy.

Claim 11 is indefinite because the expression "the bottom vessel" lacks proper antecedent basis in claim 7.

Claim 12 is indefinite because the expression "the demulsified oil" lacks proper antecedent basis in claim 7.

Claims 13-18 are indefinite because in feature (c) of claim 13, it is unclear to which output the heating section is connected.

Claims 13-18 are also indefinite because the expression "the heating output" in step (d) of claim 13 lacks proper antecedent basis.

Claim 14 is also indefinite because it is unclear if the preheating section is connected before or after the preprocessing analyzer (a).

Claim 20 is also indefinite because it is unclear where the analyzer section fits into the apparatus of claim 19.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kriegel et al. (4,522,707).

The Kriegel reference discloses a burnable used oil fuel product. See col. 2, line 49 through col. 3, line 12. Since claims 1-6 are drawn to a composition, the process steps in claims 1-6 do not distinguish the claimed product from that disclosed in Kriegel.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 7, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kriegel (4,522,707).

The Kriegel reference discloses a process for recovering a burnable used oil fuel from a used oil sample. The process comprises obtaining a used oil having about 10 percent by weight water, dewatering the oil by, for example, distillation which would necessarily result in heating the used oil, and then extracting the oil at supercritical conditions with a gas such as carbon dioxide in a vessel. The extraction residue is removed from the vessel. The extracted oil is separated. See col. 2, line 49 through col. 3, line 12 and col. 3, line 43 through col. 4, line 29.

The Kriegel reference does not disclose the temperature range of the heating step, does not disclose the trapping vessel, and does not disclose the settling of the extracted oil.

It would have been obvious to one having ordinary skill in the art at the time the invention

was made to have modified the process of Kriegel by utilizing the claimed temperature range of the heating step because any temperature that aids in dewatering would be effective.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Kriegel process by utilizing the vessel of claim 11 because any vessel that can withstand the extraction conditions would be effective.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Kriegel by settling the extracted oil because Kriegel discloses a separation step and one would utilize any separation method that results in effective separation of the extracted oil.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kriegel (4,522,707) as applied to claim 7 above, and further in view of Wolf (4,582,629).

As discussed above, the Kriegel reference does not disclose a process that includes a heating step utilizing a microwave-heating step.

The Wolf reference discloses the heating of an oil and water emulsion by subjecting the emulsion to microwave radiation. Frequencies between 2000 and 3000 MHz (2 and 3 GHz) are preferred. Temperatures are less than 60°C. See col. 1, lines 9-15; col. 2, lines 14-38; col. 3, lines 51-55; and Example 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Kriegel by utilizing the dewatering step of Wolf because the use of microwaves greatly facilitates separation of hydrocarbon-water emulsions and dispersions.

Allowable Subject Matter

Claims 19, 21, and 22 are allowed.

Claims 13-18 and 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or suggest an apparatus as claimed that contains a microwave heating section.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art not relied upon discloses processes and apparatus for reclaiming used oil.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
April 25, 2002